

EUCARAZZIA ELEGANS (FERRARI), AN APHID NEW TO THE
WESTERN HEMISPHERE, WITH ARCHIVAL DATA
(HOMOPTERA: APHIDIDAE)

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Abstract.—The collection and identification of alates of *Eucarazzia elegans* (Ferrari) from five counties in southern California constitute a new record for North America and the Western Hemisphere. In the literature, the aphid has been reported from the Mediterranean area, the Canary Islands, India on various hosts in the plant family Labiatae, the mints. While only viviparous females have been collected and while *E. elegans* has been collected on a wide variety of hosts in California, there is no indication that the true host or hosts are not a plant or plants in the Labiatae. Information is given on those hosts and locations reported in California and in the literature, the collection data of specimens in the U.S. National Collection of Insects, the history and synonymy of this genus and species, and characteristics useful in the identification of live and slide-mounted females.

This paper is provided to call attention to the first collection of *Eucarazzia elegans* (Ferrari, 1872) in North America and the Western Hemisphere. Information is given on those hosts and locations reported in California and in the literature, the collection data of specimens in the U.S. National Collection of Insects, the history and synonymy of this genus and species, and characteristics useful in the identification of live and slide-mounted females.

On April 6, 1984, I identified as *Eucarazzia elegans* (Ferrari) two alate aphids collected 3-30-84 on bell peppers (*Capsicum annuum*) [Solanaceae] in Mecca, Riverside County, California, and one alate aphid collected March 16, 1984 on *Fuchsia* sp. [Onagraceae] in Fallbrook, San Diego County, California. Kono and Reeves (1984) published the first report of this genus and species in North America and the Western Hemisphere. Alates of *E. elegans* have now been collected in California in the additional counties of Imperial, Orange, Santa Barbara, and San Bernardino. Since the first two submissions, alates have been collected from the following plants: red root pigweed (*Amaranthus retroflexus*) [Amaranthaceae]; rose periwinkle (*Catharanthus roseus*), oleander (*Nerium oleander*) [Apocynaceae]; taro (*Colocasia esculenta*) [Araceae]; chrysanthemum (*Chrysanthemum* sp.), prickly lettuce (*Lactuca serriola*), sow thistle (*Sonchus* sp.), sunflower (*Helianthus* sp.), mare's-tail [reference slip lists *Erigeron canadensis*, not *Hippuris vulgaris*] [Compositae]; watermelon (*Citrullus lanatus*) [Cucurbitaceae]; sweet corn (*Zea mays*) [Gramineae]; mint (*Mentha* sp.), catnip (*Nepeta cataria*), basil (*Ocimum* sp.), thyme (*Thymus* sp.), rosemary (*Rosmarinus* sp.), sage (*Salvia* sp.) [Labiatae]; unspecified bean plant, snail vine (*Vigna caracalla*) [Leguminosae]; mallow (*Malva* sp.) [Malvaceae]; eucalyptus (*Eucalyptus* sp.) [Myrtaceae]; privet (*Ligustrum* sp.) [Oleaceae]; fan palm (*Livistona* sp.) [Palmae]; *Pittosporum tobira* 'Variegata'

[Pittosporaceae]; rose (*Rosa* sp.), strawberry (*Fragaria* sp.) [Rosaceae]; Sierra currant (*Ribes nevadense*) [Saxifragaceae]; petunia (*Petunia* sp.) [Solanaceae]; lantana (*Lantana* sp.) [Verbenaceae]. Four alates were collected in water-pan traps, 7 alates were collected on yellow sticky boards, and 1 alate was "found in an office."

Immatures (1st-instar nymphs) have been collected only from Riverside County, California and only from the following hosts: basil (*Ocimum* sp.) [Labiatae], Thermal, April 11, 1984, 10 immatures, 3 alates; mint (*Mentha* sp.) [Labiatae], Riverside, April 14, 1984, 1 immature, 2 alates; mallow (*Malva* sp.) [Malvaceae], Thermal, April 18, 1984, 2 immatures, 2 alates; Sierra currant (*Ribes nevadense*) [Saxifragaceae], Idyllwild, May 4, 1984, 1 immature, 5 alates. While *E. elegans* has been collected on a wide variety of hosts in California, I believe that these hosts represent accidental alightings and that the true host or hosts will probably prove to be plants in the Labiatae. Alates have been collected many different times over a wide area; only 1–5 alates have ever been collected at any one time on any one plant. Despite the fact that developing populations have not been found in California, it is assumed that this aphid will not be important economically. Rearing experiments are now being conducted in California by the U.S. Department of Agriculture to establish whether *E. elegans* can reproduce on non-Labiatae hosts. Its proficiency as a virus vector is also to be tested. Starý et al. (1971) reported that *Praon volucre* Haliday is a parasite of *E. elegans* on *Salvia* sp. in France.

In the literature, only viviparous females of *E. elegans* have been described or reported and only on plants in Labiatae. Hille Ris Lambers (1953) stated that *E. elegans* had been collected on various Labiatae (*Coleus* sp., *Lavandula* sp., *Mentha* sp., *Salvia* sp.) around the Mediterranean (Italy, Spain, Morocco, Asia Minor, Egypt). Specific collections have been reported as follows: CANARY ISLANDS on *Mentha* sp. (Gomez-Menor, 1963; Tambs-Lyche, 1971); FRANCE on *Salvia* sp. (Starý et al., 1971); INDIA on an unknown plant (Ghosh, 1974); ISRAEL on *Salvia* sp. (Bodenheimer and Swirski, 1957); ITALY (del Guercio, 1921); KENYA in suction trap (Eastop, 1957); SICILY (Barbagallo and Stroyan, 1978, 1982) on *Clinopodium vulgare*, *Mentha pulegium*, *M. × sativa*, *Nepeta cataria*, *Salvia officinalis*, and *S. verbenaca* (Barbagallo and Stroyan, 1982); PORTUGAL on *Lavandula latifolia* and *Salvia verbenaca* (Ilharco, 1979) and in Moericke trays (Lourenco and Ilharco, 1982); SOUTH AFRICA in yellow tray (Müller and Schöll, 1958); SPAIN on *Lavandula stoechas* (Mier Durante and Nieto Nafría, 1979) and on *Lavandula pedunculata* (Mier Durante and Nieto Nafría, 1983); and TURKEY on *Mentha piperita* (Tuatay, 1972). The collection in the British Museum (Natural History), London, contains, in addition to several of the above, material from IRAQ (mint), IRAN (*Salvia splendens*), and ZIMBABWE (yellow trap) (V. F. Eastop, pers. comm.).

The National Collection of Insects contains the following slide-mounted material: (1) originally identified as *Rhopalosiphoninus salviae* Hall on *Lavandula stoechas* [Labiatae]—Rabat, Morocco, February 1936; Mamora, Morocco, July 31, 1936 and January 20, 1939; (2) intercepted in quarantine at Boston and originally identified as *Rhopalosiphoninus chicotei* Gomez-Menor—with *Mentha* sp. [Labiatae] from Portugal, November 19, 1963; with *Mentha* sp. from Azores, October 14, 1968; on unknown plant from Portugal, November 15, 1975; (3) identified as *Eucarazzia elegans* (Ferrari)—on *Mentha* sp. from Cyprus, December



Figs. 1-2. *Eucarazzia elegans*. 1, Alate female, in life, illustrating the waxy bands on the head, thorax, and abdomen and the black patch on the dorsum of the abdomen. 2, Slide-mounted alate female illustrating the dark spots on the wing margin at the end of the veins, the black patch on the dorsum of the abdomen, the short cauda, and the distinctly swollen cornicles.

17, 1967; (4) intercepted in quarantine at Boston and identified as *Eucarazzia* sp.—on *Mentha* sp. from Azores, November 14, 1969.

In 1872 Ferrari described *elegans* and placed it in the genus *Rhopalosiphum*. In 1921 del Guercio described as new the species *picta* from aphids collected in

1919 from leaves of *Nepitella* sp. in Sicily. Del Guercio stated that *picta* had generic characteristics similar to those of *Rhopalosiphum*; however, because *picta* lacked antennal tubercles and a well-defined cauda, del Guercio described the new genus *Eucarazzia* and included *Rhopalosiphum calthae* Koch (1854) and *R. najadum* Koch (1854) with his *picta*. Eastop and Hille Ris Lambers (1976) placed *calthae* Koch in *Rhopalosiphoninus*, treated *najadum* Koch as a synonym of *Rhopalosiphum numphaeae* (L.), and listed *Eucarazzia picta*, *Amuraphis* (*Claviphon*) *elegans* del Guercio (1930), *Rhopalosiphoninus chicotei* Gomez-Menor (1950), and *Rhopalosiphoninus salviae* Hall (1926) as synonyms of *Eucarazzia elegans* (Ferrari). A full discussion of the history and synonymy of this genus and species is given in Hille Ris Lambers (1953). Besides *E. elegans*, only *E. caucasicus* (Aizenberg, 1956), described from alates collected on leaves of *Pterocarya fraxinifolia* in Abkhazia, ASSR, USSR, is now in the genus *Eucarazzia* (Eastop and Hille Ris Lambers, 1976).

In life an alate female of *E. elegans* (Fig. 1) is striking in appearance with a silvery, waxy covering on its head and thorax and in bands on those abdominal segments not bearing a large, black patch. Each vein of the forewing ends in a dark spot on the wing margin, and the anal vein has a fuscous border for its entire length. This wing coloration is distinctive and it, along with the silvery and black coloration, readily identifies an alate in the field. An apterous female also is covered with silvery wax, but it does not have a large, black, dorsal patch on its abdomen.

A slide-mounted alate female of *E. elegans* (Fig. 2) is readily identified by the ornamented wings, the black, dorsal abdominal patch, antennal segment III with 16–27 large, tuberculous sensoria, and antennal segment IV with 3–9 sensoria. An apterous female does not have a black, dorsal abdominal patch; but it does have 2–20 tuberculous sensoria irregularly distributed on the distal portion of antennal segment III and 2–9 on antennal segment IV. Both alate and apterous females have distinctive cornicles that are strongly swollen on the distal half and that have 3–4 rows of reticulations apically. The cornicles are dark except for the proximal 1/4th in the alata and are pale except for the swollen area which is brownish in the aptera. Both forms have a pale cauda that is hardly longer than wide, is acute, and has 5–7 setae. A full discussion of the characteristics of the alate and apterous females of *E. elegans* is given in del Guercio (1921) and Hille Ris Lambers (1953).

At first glance the distinctively swollen cornicles of *E. elegans* suggest that this species is in the genus *Rhopalosiphoninus*, but closer examination reveals that the two genera share almost no other morphological characters. In his description of *E. caucasicus*, Aizenberg (1956) noted Hille Ris Lambers' (1953) treatment of *E. elegans* and concluded that "... there are differences in the marking, in the configuration of the wing, etc." According to Aizenberg, his *caucasicus* has flocky waxy powder only on the abdomen and, in addition to the triangular spots on the margin at the end of all of the veins, a light-brown band running the length of the cubitus in the forewing.

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